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AMERICAN OSTEOPATHIC ASSOCIATION

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Vol. 50, No. 11 | 212 East Ohio St., Chicago 11, Ill. | July, 1951

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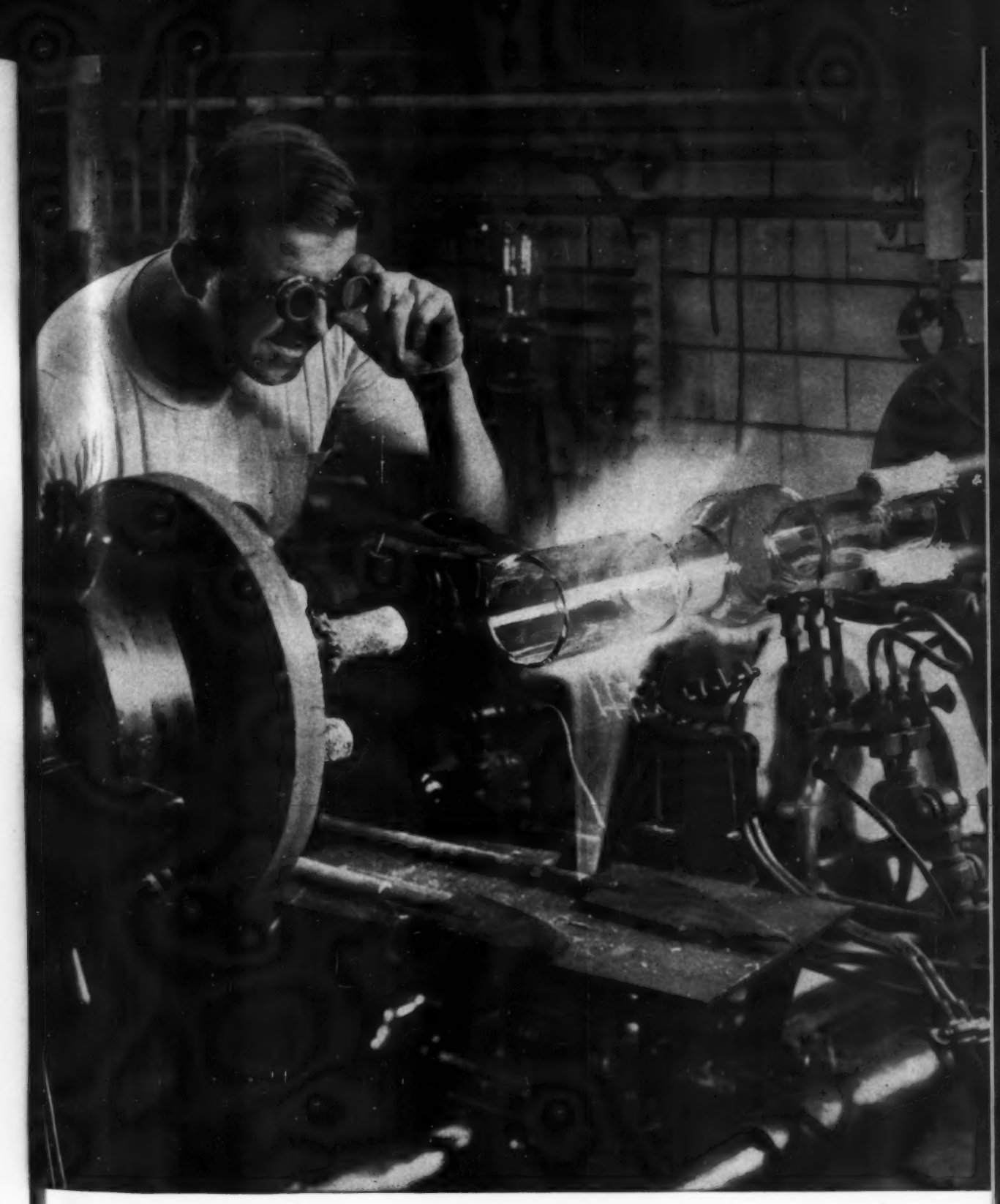
Published monthly by the American Osteopathic Association. Office of Publication, 100 S. Kenilworth Ave., Oak Park, Ill. Address all communications to the Main Office at 212 E. Ohio St., Chicago 11, Ill. Subscriptions $10 a year. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized August 31, 1922. Entered at the Oak Park, Ill., post office as second class matter, April 1, 1926, under the Act of March 3, 1879.



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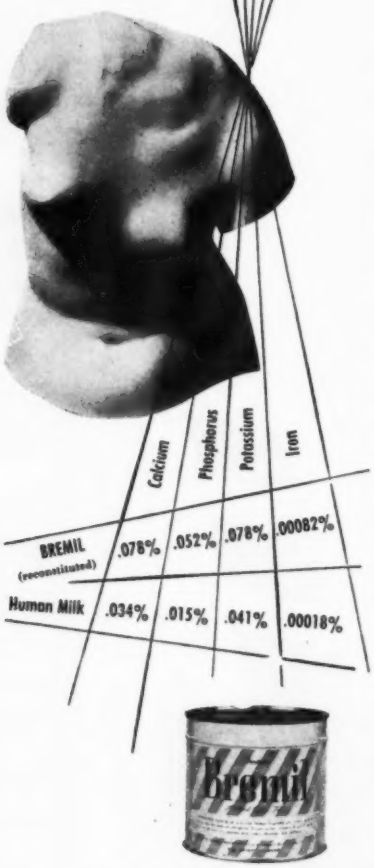

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2. Nesbit, H. T.: *Texas State J. M.* 38:551, 1943.
3. May, C. D., et al.: *Bull. Univ. Minnesota Hospitals* 21:208, 1950.
4. Recommended Daily Dietary Allowances, Rev. 1948, Food & Nutrition Board, National Research Council.

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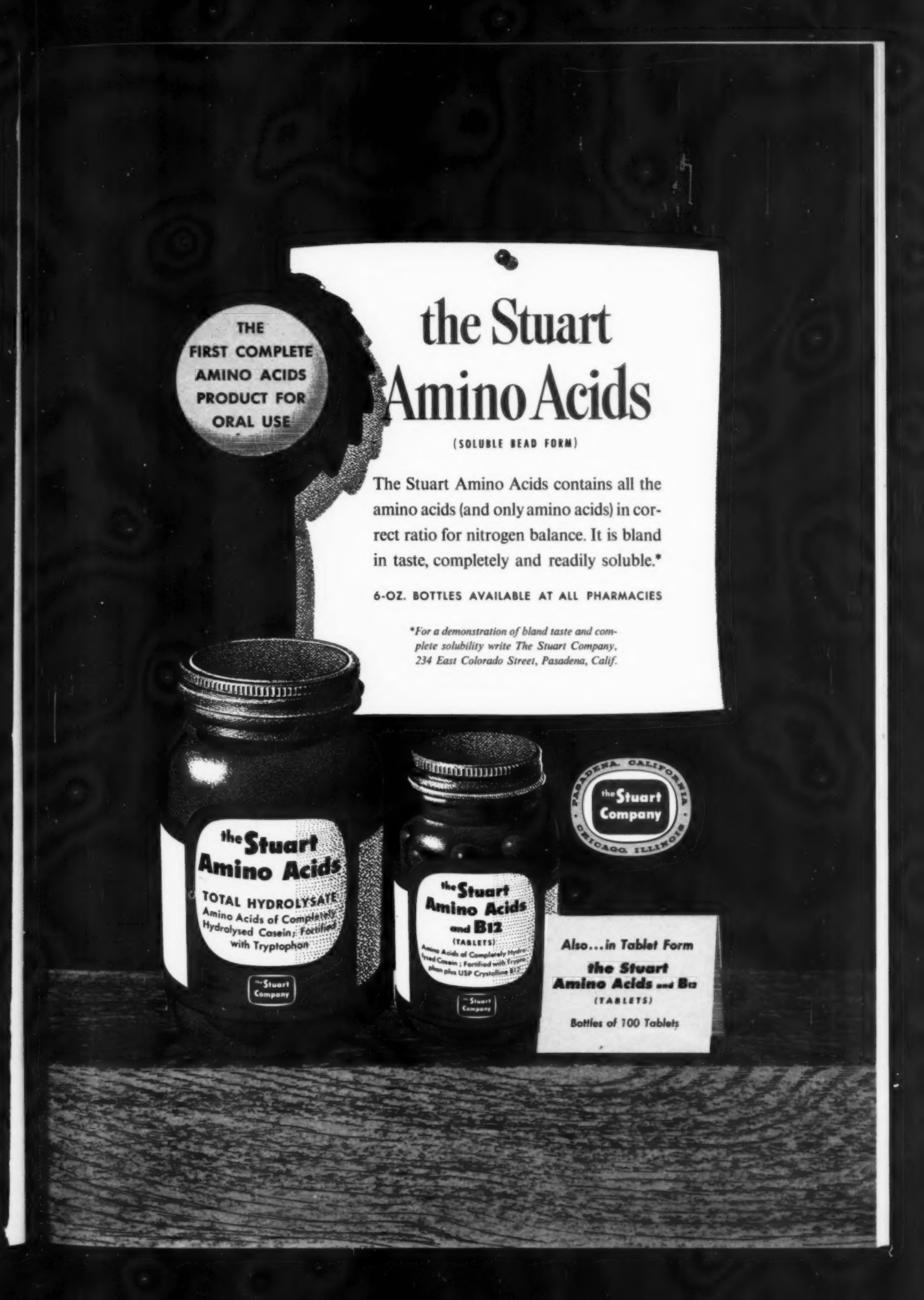
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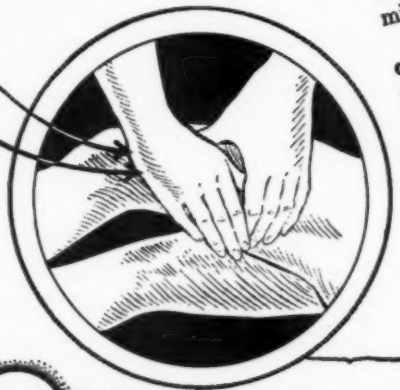

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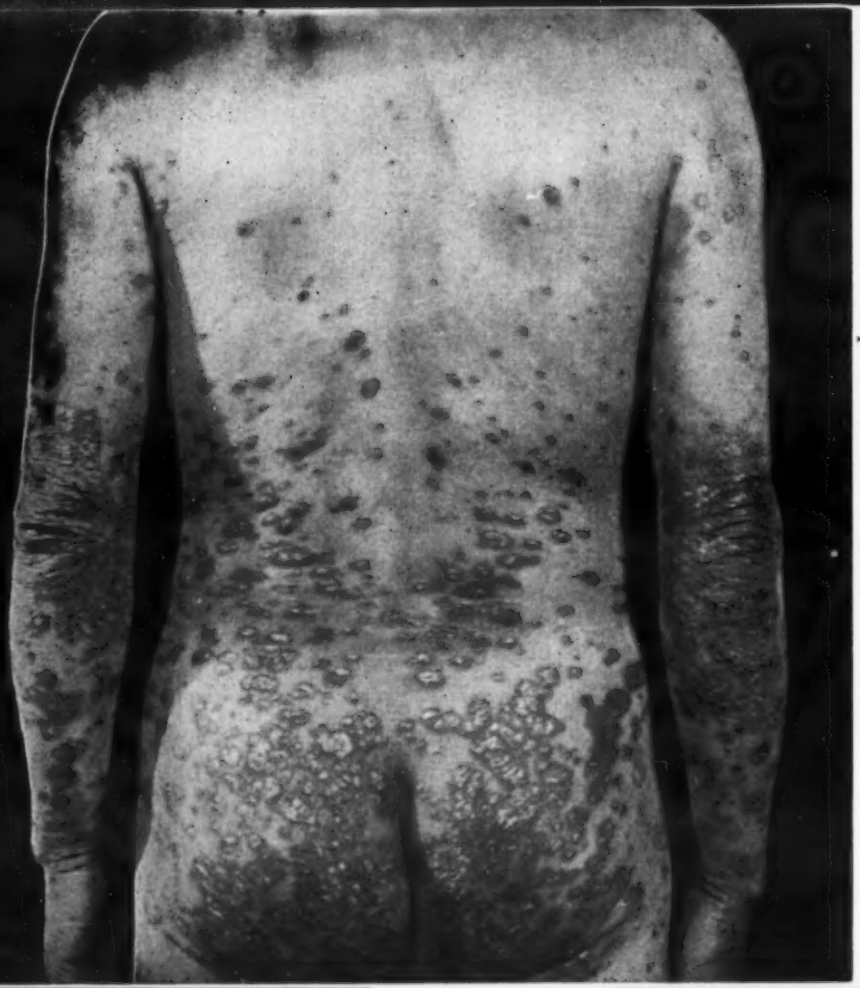

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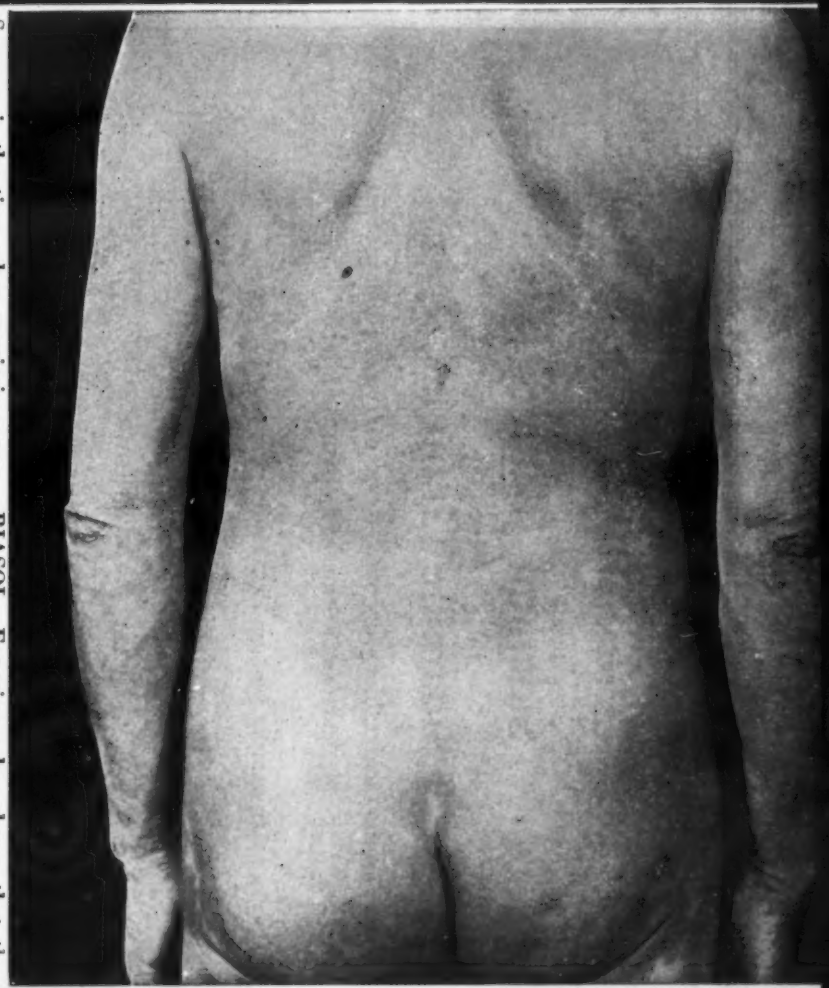

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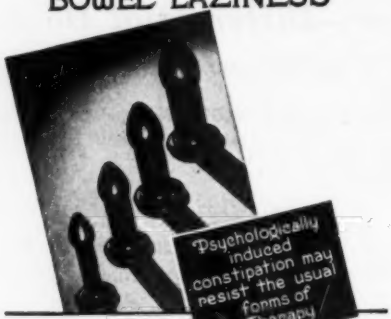

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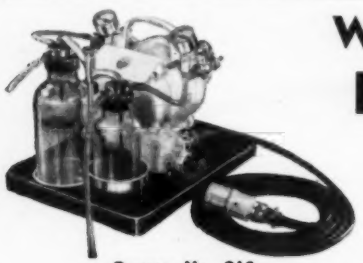

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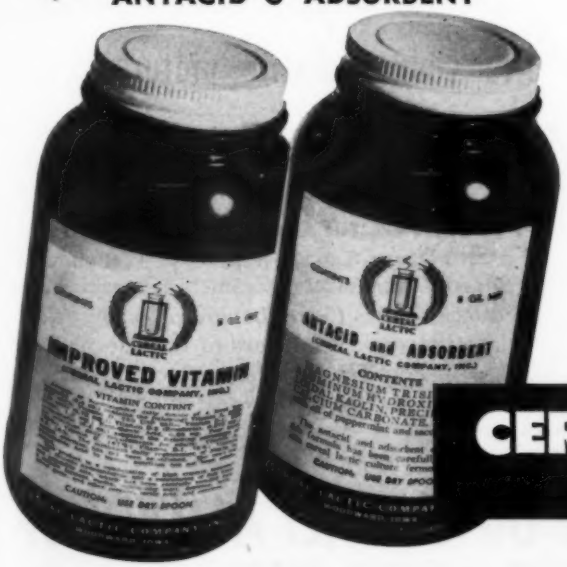

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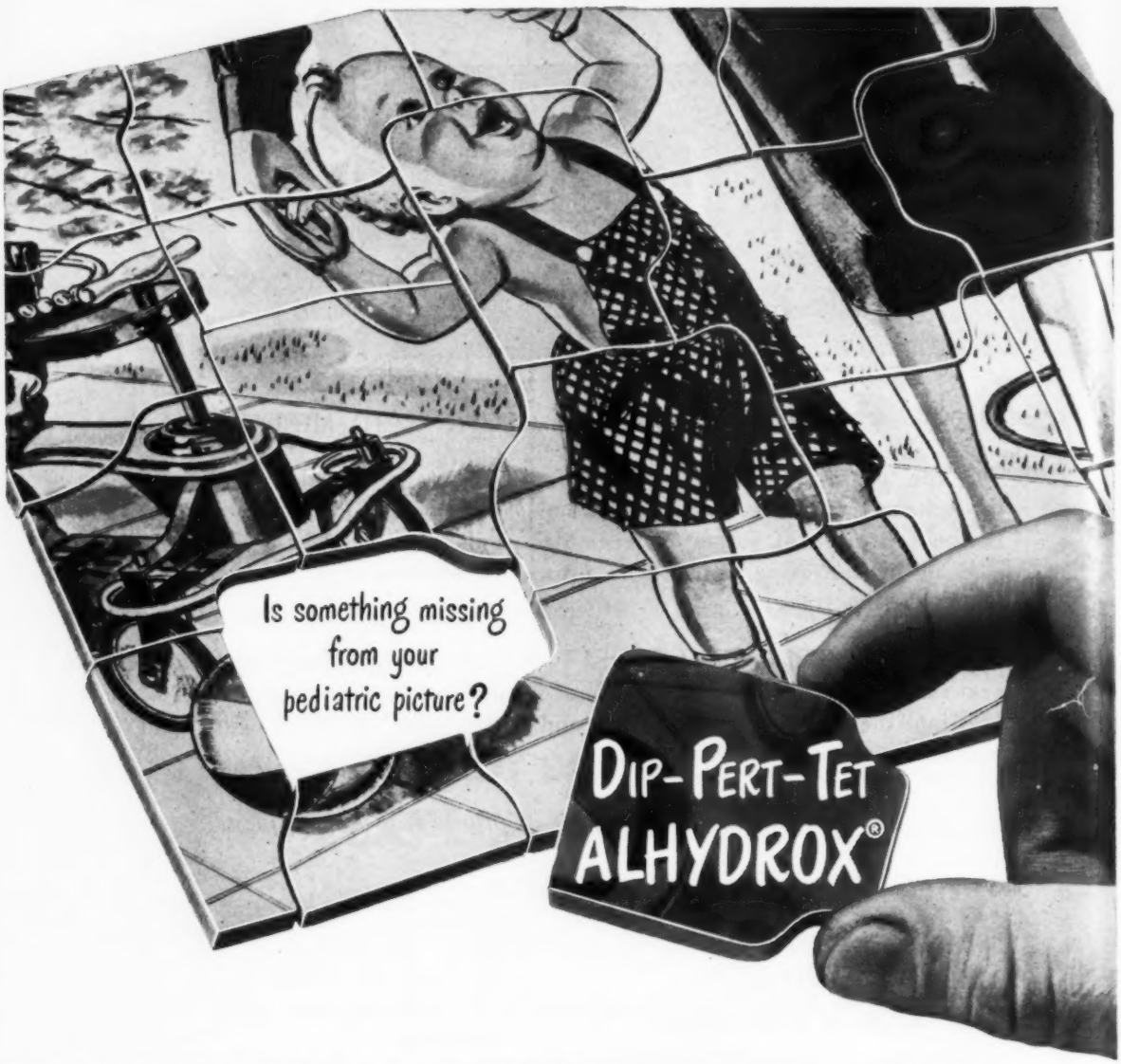

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PUBLISHED MONTHLY BY THE AMERICAN OSTEOPATHIC ASSOCIATION

Vol. 50, No. 11 | 212 East Ohio St., Chicago 11, Ill. | July, 1951

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An Osteopathic Approach to the Low-Back Problem*

ROBERT S. ROSCOE, A.B., D.O.

Cleveland

All problems are solved sometime. Some problems are said to be easy because their solution is immediate. Other problems are considered difficult because their solution requires time and effort.

The low-back presented by its possessor to the osteopathic physician for attention is always a problem—its presence in the physician's office indicates that. Solution of the problem may be immediate or it may require time—a relative matter. In this manner the ease or difficulty of the problem is denoted. Furthermore, every low-back problem is capable of solution by someone at some time.

The easy low-back problem is that one which presents no difficulty in effecting an immediate (or relatively immediate) solution — namely, patient relief and restoration of normal function. With attempts to prevent recurrence, difficulties often arise; hence this phase will be discussed with the difficult low-back problem.

The difficult low-back problem is too often a problem of keeping the patient a patient long enough to effect a result. This most important subject, although most pertinent to my subject, really belongs in the field of the art of practice which will not be included in this paper.

In this paper I propose to urge the recognition of each low-back problem as solvable, always in relation to the element of time. Further, I urge recognition that with the methods available to him, the osteopathic physician can insure solution.

An osteopathic approach is the method by which these problems can be solved, not my osteopathic approach but the approach which Andrew Taylor Still presented to all osteopathic physicians. Except for certain specific developments between 400 B.C. and 1880 A.D. and/or 1948 A.D., I believe it also to be the approach envisioned by Hippocrates and, for that matter, by all the men of vision who have contributed to the healing arts.

A. T. Still's approach was that of considering the body as a whole and was expressed by him in this way, "To comprehend this engine of life or man which is so constructed with all conveniences for which it was made, it is necessary to constantly keep the plan and specification before the mind, and in the mind, to such a degree that there is not lack of knowledge of the bearings and uses of all parts."[1]

Many worth-while articles have been written and published on the low-back problem. A review of THE JOURNAL OF THE AMERICAN OSTEOPATHIC ASSOCIATION has demonstrated a wealth of material. Old-school writers have flooded and are flooding their voluminous literature with contributions, the majority of them excellent (especially from the standpoint of painstaking compilation) on this subject.

My approach to patients may be stated in one sentence which is original—not with me, but with all osteopathic physicians: Think of what he (your patient) might have been; then look at him as he is today. Another thought which comes to mind was written by Emerson:[2] "Don't *say* things. What you *are* stands over you the while, and thunders so that I cannot hear what you say to the contrary." I believe this to be of value in the patient-doctor relationship.

A history should be written of patients presenting a low-back problem and the patient should be allowed an opportunity to tell what is wrong or what he thinks is wrong. A structural examination should be made so that the tone of the skin, muscles and ligaments, and the articular relationships of the spine, cranium, and extremities may reveal the evidence they bear as to the organism's past and present status. Examination of the pelvis should be carried out in both male and female patients. Roentgen study of the low-back and/or full spine in standard projections as a minimum should be routinely made to evaluate organic disease, anomalies, and postural imbalance. These three procedures constitute the minimum with which the average osteopathic physician should attempt to solve the low-back problems confronting him daily. With this minimum the majority are solved or apparently solved.

Now let us go into more detail concerning the examination of patients in accordance with the principles outlined above. In this way there may be suggested something of value in the handling of a difficult problem.

The patient's history should always be taken by the physician. Too many essential diagnostic aids are

*Presented before the Osteopathic Society of the City of New York, April 21, 1948. This paper, for which Dr. Roscoe received the 1948 Annual Award of the Society, is published by permission.

overlooked or missed if this duty is delegated to a nurse or secretary in order that the physician can see more patients in a shorter time. Many avenues of questioning that might be travelled may be passed by because of an understandable lack of knowledge on the part of otherwise well-trained assistants. I do, however, urge that each patient be seen by the nurse alone (as when temperature, pulse, and blood pressure are being taken) for the nurse who has been trained can often elicit different and valuable information which, if routinely noted on the record along with the physician's findings, is of value. For the sake of completeness in this day of insurance, state, and government forms, extensive investigation and thorough recording should be made of the details of onset of the immediate low-back problem as well as of all possible exciting and contributing factors of which the patient is aware. It has been urged that each case record be taken as if for a presentation in a court of law.

The physical examination, including structural evaluation, is an individual matter. I suggest utilization of the thoughts presented by various writers in THE JOURNAL OF THE AMERICAN OSTEOPATHIC ASSOCIATION. Considerations should be given the craniosacral mechanisms; the pedal arches; the cuboid, tibiofibular and femorotibial articulations and their posture-inducing changes; Chapman's reflexes; dynamic postural analysis; and the "pet theories" of the examining physician and those of his colleagues. In short, an evaluation should be made of the body as a whole, not just of the low-back area. In this paper there will be no discussion of surveys of the neurological, gastrointestinal, and genitourinary systems. The possibility of their involvement in the low-back problem is well known and it is assumed that absence of involvement will be determined by appropriate examinations.

Roentgen study is necessary for proper management of the low-back problem. Kraus[3] has shown that 80 per cent of 500 individuals seen by him with low-back pain as a presenting symptom demonstrated degenerative arthritis. The second most common finding was postural defects as a class (5.4 per cent); the third was spondylolisthesis (2.8 per cent); and the fourth was probable herniation (2.6 per cent). Congenital anomalies, discussed by Kraus[4] in a previous paper, made up only 1 per cent of the total findings. I agree with Kraus that the majority of patients with low-back problems demonstrate arthritis which I have always characterized as clinical or subclinical in degree. It is, therefore, a very frequent contributing, if not primary, factor in the production of the low-back problem.

Rarely does one etiological factor exist. More usually it is possible to list several agents any one or all of which may produce the subjective and objective symptomatology. Any contributing factor, like the straw which broke the camel's back, may "break" the human organism when the number and weight of factors become sufficient to overcome the body's homeostatic mechanisms. Our task should therefore be an attempt to retard the development of abnormal processes already begun, halt their progress, and then lead the organism back down the path to the normal from whence it deviated.

It is my hope that each one of you shares my belief that osteopathic manipulative therapy offers to the human body the most rapid way of returning the osseous articular relationships to the norm for that organism. Soft tissue manipulation speeds development of normotonic muscular structures and ligamentous balance.

The actual technics of osteopathic manipulative procedures cannot be learned from another person; they constitute an art. Principles of that art may be passed from one to another by means of the written or the spoken word. As music is the expression of one man's inspiration and as painting is the expression of another, so osteopathic manipulative correction of maladjustment of body structures is the osteopathic physician's expression of his thinking—the result of his visualization of the ideal condition of living tissues. Actual manipulation cannot be a science; the science is demonstrated in the attempt to explain the results obtained.

Therefore, I have no new manipulative technic or technics to offer which are "guaranteed" to fix the low-back that has resisted all your previous efforts to return it to normal. I do, however, offer the following suggestions which may serve the same function. Every doctor already has that technic in his armamentarium. If it has not produced the desired result, it just has not been utilized to the best of the doctor's ability. With a few changes it is certain to result in benefits to the patient.

Allen,[5] writing on "Re-education in Technic," stated,

1. We are constantly concerned with the end to be gained to the almost total exclusion of any consideration of the means whereby that end is to be attained.

2. We have followed a process of intuitive imitation both as we began to learn technic and as we have attempted to add new methods.

3. We have followed a trial and error method rather than that of reason. These then, are errors to be avoided.

As positive suggestions I offer the following: Use the hands as though they were attached to the feet, the structures in between serving as connectors or levers. The boxer starts his blow from his feet; the fencer his thrust; the right-handed golfer begins his swing by changing his weight from his left to his right foot. All athletic activities are dependent upon body balance and so is successful manipulative therapy, and body balance of the physician is more important than that of the patient.

Muscular and ligamentous tensions aid in the maintenance of osseous articular lesions. I suggest thorough release of these tensions before and/or following actual articular normalization. I am aware that some physicians obtain results without this hard (on the physician) work, and I have on occasion been able to obtain immediate results without expending the effort necessary to release tension. However, lasting results are not as frequently seen and secondary or reflex mechanisms are not as successfully halted as when what is called soft tissue manipulation is a part of corrective efforts.

The importance of preparatory relaxation of tissue was strikingly emphasized by Magoun[6] in his delineation of D. L. Clark's philosophy of osteopathy. Clark recognized four types of osteopathic or Still lesions:

1. Those occurring in active toxemia producing inflammation

2. Primary acute lesions of recent origin

3. Secondary or reflex lesions from visceral pathological conditions

4. Simple traumatic or postural-strain types.

This last covers a great field in which osteopathic manipulative therapy is of prime importance. In Clark's experience with this type of lesion, preparatory relaxation was mandatory.

Burns[5] brought to attention interesting facts concerning the time of administering manipulative therapy. Frequently better results are obtained when, for immediate effects, *acute cases* are treated in the morning. This is true because of:

1. Lower neuron threshold
2. Lower blood pressure
3. Lower blood count and hemoglobin.

Chronic cases are better treated in the afternoon to prevent production of less desirable reflexes.

Lesions produced in the morning are associated with more pronounced reflexes and more marked immediate effects. Lesions produced in the afternoon (especially the late afternoon) are associated with less marked reflexes and much less marked immediate results.

I have mentioned the diagnostic use of craniosacral mechanisms and Chapman's reflexes. At this point I make the recommendation that they be used in therapeutic endeavors. Awaiting full understanding of these still debatable subjects helps no one, and it is my belief that incorporation of these principles in manipulative technics will contribute to man's mental and physical progress.

Athletics play a large part in the production of the low-back problem. Discussion of acute or repetitive traumatic low-back problems may be included either under the subject of the management of athletic injuries or under that of the management of the low-back problem. I urge recognition of some of the more basic factors in regard to athletic injuries. Although I was once active in competitive athletics, I am strongly opposed to athletic practices commonly followed today. There are several reasons for this unpopular assertion. Applicable to the subject under discussion is the following:

A. *Body contact* and its resultant stresses and strains upon bones, ligaments, and muscles:

1. Although the hips are used and abused so much in football, basketball, and baseball blocking, the acetabulum does not fully ossify until between the twentieth and twenty-fifth years. (This is the period from the junior college year to 3 years after college graduation.) The greater and lesser trochanters do not join the body of the femur until about the age of 18, the average age of college freshmen. The condyles do not join the lower extremity of the femur until the twentieth year (college junior year).

2. With the exception of the first, second, and seventh cervical and the lumbar vertebrae, the five secondary centers of ossification of the spinal vertebrae appear at the sixteenth year (one for the tip of each transverse process, one for the extremity of the spinous process, and one for the upper and lower surface of the vertebral body). These centers fuse with the rest of the bone about the age of 25 (3 years later than the average age at college graduation!) Until ossification these structures are joined by cartilage.

3. The sacral vertebrae are joined to one another by cartilage until the eighteenth (college freshman) year with union beginning at the bottom and extending upwards to the first sacral segment (a part of the important lumbosacral junction) until the period from the twenty-fifth to the thirtieth year when all are united. (The small print in Gray's "Anatomy"[8] following each bone's description is recommended for study of that bone's ossification.)

4. Ligamentous tears from body contact generally result in the formation of scar tissue, nonelastic in type, with lasting changes of joint motion which may result in permanently altered body mechanics. Increased range of motion beyond the normal, due to ligamentous stretching, may have a like effect. Osteopathic physicians who have cared for acrobatic and eccentric dancers have seen the results of structural damage occurring during childhood training.

5. Muscle injury due to body contact results in fibrous tissue formation and altered body mechanics by way of an inequality in muscular tensions and hence in articular motion.

B. *Tissue strain* due to the pounding the running body receives on the hard ground or floors: This includes chronic trauma to the epiphyses, developing bone, muscles, and ligaments. Girls and women suffer sudden strains on the uterine suspensory ligaments while jumping, running, and particularly while playing basketball. Pathologic reflexes from the pelvis to the low-back region are possible. (Can female participation in athletics be a possible factor in the seemingly increased need for surgical uterine suspensions, fixations, and removals?)

Confining this paper to the low-back problem necessitates omission of a discussion of the strain thrown upon the heart by physical competition and of cranial injuries resulting from body contact. The damage from these strains and injuries can be incalculable.

Man's desire to beat the other fellow rather than to help him is stimulated by many a father seeking a vicarious athletic career through his son. In this and other ways injuries occur, too many of which unfortunately do not show up until later life when it is difficult to attribute them specifically to their original cause.

McDonagh[9] concludes that "health and disease in man, animals, and plants are traceable back to the presence or absence of health in the soil." This is compatible with my concept of the low-back problem.

I believe that walking on concrete, clay, and hard-wood floors or, for that matter, sitting on the bouncing seat of an automobile, subway, or train was not meant to be man's lot. Yet that is the way the most of us "live." The police horses in my home town are shod with rubber and sponge rubber pads to enable them to keep walking for an average of 7 or 8 years on the same streets that we walk upon. Cannot this mechanical trauma to our tarsal structures, knees, sacroiliac joints, and vertebral processes be instrumental in the production of arthritis, as well as in the development of low-back problems?

The absence of topsoil has resulted in hard ground surfaces, mud, and accumulations of surface water, necessitating sidewalks and hard leather coverings for the feet instead of normal walking with bare or lightly covered feet on a yielding surface. The best

foot exercise and one of the best low-back exercises is walking barefooted in soft sand.

It is my belief that the absence of "healthy soil" has played a large role in the production of arthritis. This may be operative both through the mechanical trauma irritating and causing local inflammation in joints and the absence of proper food elements in the soil. Inability to secure normal nutrition, particularly minerals, regardless of the types of foods selected for the daily diet is a result of the absence of "healthy soil."

I cannot resist attempting to help future mothers as well as other women of today by urging proper footwear. Every effort should be made to help them resist high heels and no heels, as exemplified in their extremes by "spikes" and "ballerinas"; and the popular heelless, toeless, and almost soleless shoes. Consider the low-back strains induced daily by these vanity-spawned destroyers of our women's health, even of men's. The "aching-back" wife and mother with her nervous irritability and decreased desire to do housework, including cooking, and her resultant change in temperament can affect growing children as well as men. The far-reaching damage of improper footwear is too infrequently realized.

Postural stress may be initiated by lower extremity deficiencies. More frequently, I believe, structural tensions are the result of a "lazy" posture. Some anthropologists contend that the fault is in man's upright posture. I accept the effect of gravity on men and the induction of dynamic body mechanics which it necessitates. Beckwith[10] has estimated that good posture is found in only 20 to 25 per cent of the population, that bad posture is found in less than one-fourth of the population, and that the remaining group, more than one-half of the ambulatory population, goes about its daily tasks with a rate of efficiency definitely below par although without flagrant violation of the principles of good body mechanics. From the standpoint of health, 75 to 80 per cent of our population have undesirable posture.

Improper posture results in fatigue and, when the low-back is involved, low-back symptomatology. It has been stated that the major constitutional factor in the production of chronic arthritis is fatigue. Fatigue will result from normal use of an area in which an osteopathic lesion exists, and fatigue is one of the greatest abuses we can place upon any body structure. Bogomolets[11] stated among the first principles in the prolongation of life that "Rest from work must precede fatigue."

Heel lifts and wedges, supportive and/or corrective braces, active and passive exercises, manipulative or closed surgical and open surgical procedures are often of value in postural disturbances. However, none of these measures equals in lasting results the normalization of body mechanics by patient-induced posture correction; the change from bad posture to good posture is accompanied by a change from indifference to awareness.

Some forms of rest may need to be changed, some work habits may of necessity have to be altered, some forms of play in vogue may have to be eliminated in order to eradicate body strain. Many forms of recreation are dependent upon repeating the same body movements over and over. The man or woman who is only too willing to blame his or her low-back difficulties on occupational strains is often reluctant to recognize the damage done by a "grooved" golf or bowling swing.

Work requiring repetition of similar body motions throughout the work day and carried out month after month may result in muscular fibrosis and arthritis. I believe it does. The ground is thus prepared for the development of a low-back problem. In respect to work habits I feel obliged to comment on the posture of the osteopathic physician. We who are daily commenting on posture should be examples of the correct posture. We should not demonstrate an abdominal protuberance as our acquiescence to gravity with the secondary pedal eversion and lumbar lordosis it necessitates. We should walk, stand, sit, and lie correctly. And we should remember that posture reflects mental attitudes. Krout,[12] writing in the *American Journal of Psychiatry* in 1931, said that posture was the end result of the individual's struggle with repressed emotions—that is—his conflict with society. We all utilize patient posture in diagnosis. Our posture too is often noted by our patients and indifferent posture may be interpreted to reflect mental indifference to the problem at hand.

I believe psychologic factors are one of the basic causes, if not *the* basic cause, of what are usually regarded as orthopedic problems. The pathology of disease is that of the organism as a whole and not merely of cells and tissues. The site of the somatic or physical manifestation "is determined by an unconscious 'organ inferiority.'"[13] This I believe to be true because thought, if only cell intelligence, must precede action. I have mentioned elsewhere[14] that thought of an action causes actual muscle fiber contraction in muscles producing that action, whether the individual is aware of it or not. The content of the subconscious mind is believed to govern emotions, which, when exhibited outwardly, are known as character or personality, and in turn may and do produce subliminal muscular contraction. It is in this way that man's "vegetative" growth may express itself.

Speeding up the time scale by visualization of the patients' life histories in a few minutes of time would enable more complete evaluation of their vegetative growth and prove enlightening in respect to the "chronic" disabilities so often encountered. It would also demonstrate the actual factors behind and beyond the apparently accidental acute onset of structural problems.[13]

Muscular tension, both skeletal and visceral, reflects the state of the emotions. Anxiety is especially responsible for muscular and structural hypertonicity. Variations in bone density may result from altered nutrition as a result of disturbed circulation. We are aware of the effect of the emotions on circulation to the skin and viscera; why cannot the bony structures also be involved? I believe they can be.

An active charter member of the Cleveland Alcoholics Anonymous told me that men make much better members than women. It has been their experience that women never "break down" and "tell the whole story," always keeping "it" to themselves. Can this not be a partial explanation for the marked degree of "tension" found in women patients and for the predominance of women patients in so many practices?

Earlier in this paper I suggested that a part of the management of the low-back problem was establishing the proper patient-physician relationship. To empha-

size that statement I quote from an article written by LeVay:[13]

A valuable part of dealing with orthopaedic patients, particularly in long-term cases, is the winning of their affection and respect. The patient identifies himself with the surgeon, wants to please him by getting well, in other words [as Socrates said] "give him his soul to be cured." Psychoanalysts are familiar with this as a positive transference which inevitably alternates in their work with a negative transference of hatred and delay in recovery. Though these forces are unconscious and uncontrollable they may be set off by the most trivial errors in handling, and it is worth while for the orthopaedist to aim at achieving a strong positive transference at the outset of treatment and maintaining it as long as possible. He should also scrutinise his own reactions to troublesome and irritating patients, for to respond in the same vein is to encourage the growth of neurosis.

Recognition of these factors makes the physician responsible for their utilization in his practice. He must, however, carry this one step further. The patient must be made "self-sustaining" in order to reach an optimum state of health.

Some pertinent remarks on this subject were made by Ligon:[15]

It is probable that few people realize how bad a job we are doing with personality development. Most of us plod through life just getting by. We are not sent to mental hospitals. We do not come into conflict with the law. We earn a living, and do not end up in the poorhouse. This we call a successful life. No wonder men have hoped for a heaven in the hereafter. They have done a pretty poor job of making this life very much like one. Probably not one-tenth of one per cent of the people, and that includes us, attain even an approximation of their highest capacity for achievement and happiness.

As osteopathic physicians our responsibility is, according to Still, to conform to and work by the laws and specifications of nature. It was his belief that if this dictum were followed, osteopathic physicians would achieve the results required.[16]

A comprehensive diagnostic regime insuring a dynamic patient evaluation must precede therapeutic endeavors. These in turn must include the many facets of the patient's life and the less dramatic but essential process of self-searching by the physician himself. If we desire to solve the difficult low-back problem, we must so stimulate patients by word and deed that they too will choose and strive toward a purpose which will:

1. Make them sensitive to the needs of those about them

2. Make them always anxious to give every man his highest chance for happiness and achievement, by overcoming the forces which would destroy it

3. Make them eager to solve the conflicts which arise within men and between them.

Albert Schweitzer, a doctor of philosophy, of theology, of music, and of medicine, who has been living since 1913 as physician and surgeon to the natives in Africa and whom *Life*[17] on October 6, 1947, called the "greatest man in the world," deserves attention if only on the basis of his accomplishments and his sacrifices. He has written:[18]

Today there is an absence of thinking which is characterized by a contempt for life. We waged war for questions which, through reason, might have been solved. No one won. The war killed millions of men, brought suffering to millions of men, and brought suffering and death to millions of innocent animals. Why? Because we did not possess the highest rationality of reverence for life. And because we do not yet possess this, every people is afraid of every other, and each causes fear to the others. We are mentally afflicted one for another because we are lacking in rationality. There is no other remedy than reverence for life, and at that we must arrive.

Thinking has not given us that, but thinking is preparing it—in natural science, which allows us to know the inner nature of being; and in ethics, which is developing in a direction by which it reaches its conclusion in reverence for life. Reverence for life dwells within our thought. We have only to go deep enough through absence of thought until we come to this profound ethic which is already a religion.

We wander in darkness now, but one with another we all have the conviction that we are advancing to the light: that again a time will come when religion and ethical thinking will unite. This we believe, and hope and work for, maintaining the belief that if we make ethical ideals active in our lives, then the time will come when all peoples will do the same. Let us look out toward the light and comfort ourselves in reflecting on what thinking is preparing for us.

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REFERENCES

1. Still, A. T.: Philosophy of osteopathy. Published by the author. Kirksville, Mo., 1899, p. 19.

2. Emerson, R. W.: Letters and social aims.

3. Kraus, E. R.: A clinicoradiological consideration of low-back pain. J. Am. Osteop. A. 47:308-313, Feb. 1948.

4. Kraus, E. R.: Anomalies as a cause of low-back pain. J. Am. Osteop. A. 43:1-7, Sept. 1943.

5. Allen, P. van B.: Re-education in technic. J. Am. Osteop. A. 37:123-126, Dec. 1937.

6. Magoun, H. I.: Dr. D. L. Clark's philosophy of osteopathy. J. Am. Osteop. A. 37:400-402, May 1938.

7. Burns, L.: Methods of applying manipulative technic. J. Am. Osteop. A. 44:271-273, Feb. 1945.

8. Gray's Anatomy of the human body, edited by C. M. Goss. Ed. 25. Lea & Febiger, Philadelphia, 1948.

9. McDonagh, J. E. R.: Nature of disease up to date. W. Heinemann, London, 1946.

10. Beckwith, C. G.: Posture. J. Am. Osteop. A. 39:99-104, Oct. 1939.

11. Bogomolets, A. A.: Prolongation of life. Duell, Sloan & Pearce, New York, 1946, p. 90.

12. Krout, M. H.: Preliminary note on some obscure symbolic muscular responses of diagnostic value in study of normal subjects. Am. J. Psychiat. 11:29-71, July 1931.

13. LeVay, A.D.: Psychosomatic approach to orthopaedic surgery. Lancet 1:125-129, Jan. 25, 1947.

14. Roscoe, R. S.: Dynamics of therapy; psychological aids. J. Am. Osteop. A. 47:341-345, March 1948.

15. Ligon, E. M.: Psychology of christian personality. Macmillan Co., New York, 1946, p. 354.

16. Still, A. T.: Osteopathy; research and practice. Published by the author. Kirksville, Mo., 1910, p. 25.

17. Greatest man in the world. Life 23:95-96, Oct. 6, 1947.

18. Schweitzer, A.: Religion in modern civilization. Christian Century 51:1483-1484, Nov. 21, 1934; 51:1519-1521, Nov. 28, 1934.

HOMEOSTASIS

. . . The coordinated physiological processes which maintain most of the steady states in the organism are so complex and so peculiar to living beings—involving, as they may, the brain and nerves, the heart, lungs, kidneys and spleen, all working cooperatively—that I have suggested a special designation for these states, *homeostasis*. The word does not imply something set and immobile, a stagnation. It means a condition—a condition which may vary, but which is relatively constant.—W. B. Cannon, in "The Wisdom of the Body," Rev. Ed. W. W. Norton & Co., New York, 1939, p. 24.

Small Bowel Lesions Responsible for Diarrhea: Their Classification and Roentgen Manifestations*

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At the outset let it be remembered that during the course of a year the roentgenologist can expect to find dependable x-ray evidence of gastrointestinal disease in only about 25 to 30 per cent of the patients sent to him for diagnosis because of digestive complaints.[1] Therefore in examining the most difficult portion of the gastrointestinal tract, the small intestine, close attention must be paid to detail and the clinical data must be analyzed carefully.

Bockus[2] quotes Roux's definition for diarrhea as being "the too rapid evacuation of too fluid stools." In my subsequent remarks, I will consider only chronic diarrhea (intractable, intermittent, or recurrent) that is presumably due to small bowel lesions. Acute diarrheas, usually of only several days duration, are not included because such cases rarely are, and probably never should be, submitted to roentgen examination.[3] These cases are apparently of so-called "food poisoning" origin.[4] In cases of diarrhea the colon, especially the distal two-thirds, must be found to be essentially negative by means of the barium enema and proctosigmoidoscopy before there can be serious consideration of small intestine lesions as a cause.

Small bowel lesions producing diarrhea at some time or other during their course may be listed as follows:

1. Chronic inflammatory disease
   a. Nonspecific granuloma or enteritis
   b. Postirradiation ileitis
   c. Tuberculous enteritis
2. Deficiency diseases
3. Neoplastic diseases
   a. Lymphosarcoma (infiltrating type)
   b. Carcinoid.

This presentation will be confined to the above diseases.

TECHNIC OF EXAMINATION

Disease of the distal ileum may frequently be disclosed during the course of fluoroscopic and radiographic examination of the colon. This retrograde filling of the lowermost portion of the ileum can be accomplished in most cases if the examiner will make a special effort to do so.[3] However, when the possibility of disease of the small intestine is considered the administration of a barium suspension by mouth is most important in order to study the entire extent of the small bowel. Golden[5] was one of the first to realize this, performing his initial small bowel study in 1928.

Although small bowel disturbances are frequently disclosed during routine gastrointestinal studies, more specific study is usually required. At the present time there is no real standard method of examination. In my work at the Los Angeles County Osteopathic Hospital during the past 4 years I have tried various routines with only moderate success, resulting for the most part no doubt from inexperience. No matter what method is used, however, the important thing is for the examiner to select the method which he likes best and make that his standard technic so that the interpretation of results may be improved by experience. For screening out those patients who need more intensive survey, I find the method proposed by Hodges, Rundles, and Hanelin[1] to be quite practical, more so than the time-consuming methods which entail frequent fluoroscopy and films.[3-5] In this method the barium suspension is given on a fasting stomach the first thing in the morning. Fluoroscopic examination is made of the esophagus and stomach and of the passage of the meal into the jejunum. Single full abdomen films, with or without use of the Bucky diaphragm, are exposed immediately after completion of the fluoroscopic examination and at intervals of 1, 2½, and 5 hours. If detailed study is then deemed advisable, the rapid method proposed by Weintraub and Williams[6] seems to be practical. These men utilize an ice-cold normal saline stimulus to enhance peristalsis following the initial examination of the esophagus, stomach, and duodenum. Multiple full abdominal films are exposed at regular intervals and fluoroscopy is utilized as indicated.

The medium used in investigation of the small intestine is a suspension of 4 ounces of plain barium and 4 ounces of distilled water or isotonic normal saline at room temperature. The reason for distilled water is to eliminate possible allergic disturbance of the small bowel by such substances as flavoring materials,[7] or chlorine.[8] The preferable liquid vehicle, however, is isotonic normal saline because it is more physiologic and does not cause the stomach and duodenum to do any additional work.[5] The barium-saline suspension produces less distortion of the mucosal pattern and more adequate filling of the small intestine.[6]

NORMAL SMALL INTESTINE

A detailed review of the normal small intestine cannot be made here, but some of the important points will be mentioned. Normal roentgen anatomy is, for the most part, dependent on mucosal pattern, muscular tone, physiologic motion, or a combination of these three factors.[8] The barium shadow is usually continuous and not scattered and divided. The caliber of the lumen of the jejunum varies from 2 cm. to 3 cm. in width while that of the ileum varies from 1.5 cm. to 2.5 cm. in width. The folds of Kerkring (valvulae conniventes, plicae circulares) are largest in the duodenum and jejunum, become smaller and less frequent in the lower jejunum, and are quite low and lie farther apart in the ileum. Thus, in the distal duodenum and upper jejunum the mucosal pattern looks something like the snow-covered branches of an evergreen tree. A little lower in the jejunum and in the upper ileum a fine flaky appearance has been referred to as "plastering" of the barium.[9] Farther along in the ileum the pattern may be either continuous or segmented without a visible contour pattern. In other

*Presented at the annual meeting of the American Osteopathic College of Radiology, Detroit, October 10, 1949.

instances it may resemble a "stack of coins."[8] Longitudinal folds may sometimes be seen in the terminal ileum. The peristaltic contractions, which seldom exceed 1 cm. in width, are sharply demarcated and are promptly followed by relaxation to the normal lumen width. The wall of the normal small bowel is freely movable and nontender, being so soft and pliable that it cannot be palpated.[4]

Of course all radiologists with any experience are aware of the frequent variations in all forms of gastrointestinal radiography. However, in most cases one can expect the normal stomach to be empty in 2½ hours with the head of the barium column advanced well into the ileum. One can also expect, as a rule, advanced filling of the right colon with the tail of the column in the terminal ileum thus producing a film pattern at 5 hours in which all of the barium taken by mouth will be below the level of the umbilicus and to the right of the midline.

NONSPECIFIC GRANULOMA

The term "nonspecific granuloma" includes regional enteritis, chronic nonspecific regional enteritis,[10] regional ileitis,[11] cicatrizing enteritis, and chronic ulcerative and nonulcerative enteritis. The etiology of this disease, which may involve the wall of any portion of the small or large intestine, is unknown. The most frequent site is the lower ileum while involvement of the cecum is rare. Mesenteric lymphadenitis is commonly associated with this disease.[4]

In the early stages of the disease the lumen may not be narrowed, shortening of the involved segment may not be obvious, and, therefore, the roentgen diagnosis is based on evidence of minor changes in the mucosal pattern including a polypoid appearance, tenderness, a sense of decreased pliability, and changed mobility of the bowel demonstrated during fluoroscopy. Additionally, there may be an associated local or generalized intestinal hypermotility.[12] Kantor's string sign, which is seen quite frequently in terminal regional ileitis, refers to a thin thread of barium noted in the involved segment several centimeters proximal to the cecum.[13]

Brown[10] has listed the roentgen signs of more advanced disease in the order of importance and frequency as follows:

1. Deformity of the contour of the bowel wall
2. Narrowing of intestinal lumen
3. Loss of mucosal pattern
4. Hourglass constrictions with apparently normal areas of bowel between
5. Rigidity and immobility of the involved segment
6. Displacement of adjoining segments of bowel by palpable pseudotumors
7. Demonstration of internal fistulous tracts
8. Hypermotility of intestinal contents
9. Stenosis with dilatation of the proximal portion of the bowel.

POSTIRRADIATION ILEITIS

Chronic ulceration, inflammation, and fibrosis of the ileum, as well as the sigmoid, are found as complications of deep x-ray and radium therapy of the pelvis for extrarectal cancer. Diarrhea may appear shortly after irradiation is completed, within several months, or years later.[14] In addition to the history, the roentgen findings are segmentation of the barium column, flattening of mucosal pattern, hypomotility, and narrowing of the lumen.[15]

TUBERCULOUS ENTERITIS

Tuberculosis of the intestine is usually associated with pulmonary tuberculosis, being only rarely primary in the intestine. Usually both the ileum and cecum are involved. Pathologically tuberculosis and nonspecific granuloma are quite similar; therefore, it is not surprising that roentgenologic differentiation is difficult. The chief features of ileocecal tuberculosis are:

1. Irritability and hypermotility of the ileum and cecum producing Stierlin's sign or symptom
2. Deformity of the wall of the involved region
3. So-called "skip areas" of normal segments between diseased areas.[5]

The contours of the tuberculous intestine typically have a rougher, more corrugated appearance corresponding to a more irregular, disconnected distribution of the ulcerohyperplastic process, whereas the nontuberculous bowel usually presents smooth contours with uniform narrowing corresponding to the typical even development of the underlying process.[5] As an aid in differentiating tuberculosis from some other diseases, a chest film should be done when there is evidence of chronic enteritis.

DEFICIENCY DISEASES

Chronic idiopathic steatorrhea, tropical and nontropical sprue, adult celiac disease, and celiac disease in infants are apparently all based on the same physiologic disturbance and may be considered as being identical conditions.[16] All patients, however, do not respond to the same treatment.[4]

Disturbance of the small intestine is believed to be caused by functional changes rather than organic pathologic changes.[17]

The roentgenologic findings which have been described by many observers[3,4,5,18] are:

1. Hypertonicity and hypermotility in the early stages
2. Hypotonicity and hypomotility in the later stages
3. Coarsening of the mucosal pattern in the distal duodenum and jejunum
4. Dilatation of the jejunum with formation of sausage-like barium masses known as the moulage sign[13]
5. Segmentation of the barium (more marked in the jejunum)
6. Marked depression of motility (a striking development in view of the chronic diarrhea)
7. Irregular flocculation or scattering of the barium in the upper segments of the small bowel because of the mucosal distortion
8. Presence of gas and fluid levels sometimes simulating ileus.

These changes are more marked as the clinical picture becomes more prominent. The involved segments of bowel return somewhat to normal as the patient improves.[5]

NEOPLASTIC DISEASES

The incidence of primary malignant neoplasms is low.[5] Those malignancies which may produce a chronic diarrhea apparently are diffuse, rather than localized.

Infiltrating lymphosarcoma of the small intestine occurs most frequently in the ileum, possibly because of the abundant lymphoid tissue at this site; the jejunum is the next most frequent site.[2,19] The mesen-

teric lymph nodes are also involved.[5] Roentgenologically, the findings are:

1. Smooth contour of involved segments due to loss of mucosal folds

2. Dilatation of loops because of the absence of fibroblastic elements

3. Hypomotility with stasis in involved segments due to rigidity and fixation by the infiltrating character of the process.

Obstruction occurs more frequently in carcinoma because of the greater extent of fibroblastic elements.

Carcinoid or argentaffin tumors of the small intestine may be single or multiple.[18,20] They are nodular lesions found in the submucosa, having a characteristic bright yellow color when seen in cross section. Ulceration does not occur. True annular stenosis of the bowel is rare because the growth involves only part of the gut lumen. These tumors are most frequent in the ileum and appendix. Although roentgen diagnosis is rare, findings may be:

1. Partial ileal obstruction with multiple sites of bowel narrowing

2. Dilatation proximal to the lesion

3. Kinking at the site of the lesion

4. Loss of mucosal markings in the involved segment.

Neoplastic lesions many times simulate regional enteritis or deficiency states. It is quite possible that use of the rapid filling technic proposed by Weintraub and Williams[6] will improve the diagnosis of these lesions.

CONCLUSION AND SUMMARY

In conclusion, in this paper an effort has been made to emphasize the roentgen manifestations, as they are known at the present time, of chronic small bowel lesions producing diarrhea. In general, the roentgenologic observations depend upon persistent or relatively persistent deformities of the bowel lumen, displacement of bowel segments as by mass formation, signs of luminal obstruction, and disturbances in motility. The pathologic physiology operating in these chronic diarrheal conditions of the small bowel is believed to be caused by vitamin deficiencies; disturbances in the digestion and absorption of fats, proteins, and carbohydrates; disturbances of secretion of intestinal juices; and disturbance of the intramural nerve apparatus.

As pointed out at the beginning of this paper, the differential diagnosis of small bowel lesions requires careful analysis of clinical data as well as of roentgen findings. The most important step in the diagnosis of a small intestine disease, or any other disease, is to think of it.

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REFERENCES

1. Hodges, F. J., Rundles, R. W., and Hanelin, J.: Roentgenologic study of small intestine; neoplastic and inflammatory diseases. Radiology 49:587-602, Nov. 1947.

2. Bockus, H. L.: Gastro-enterology. W. B. Saunders Co., Philadelphia, 1946, Vol. II.

3. Weber, H. M.: Roentgenologic manifestations of non-neoplastic lesions of small intestine. J. Am. M. A. 113:1541-1546, Oct. 21, 1939.

4. Golden, R.: Small intestine and diarrhea. Am. J. Roentgenol. 36:892-901, Dec. 1936.

5. Golden, R.: Radiologic examination of the small intestine. J. B. Lippincott, Philadelphia, 1945.

6. Weintraub, S., and Williams, R. G.: A rapid method of roentgenologic examination of the small intestine. Am. J. Roentgenol. 61:45-55, Jan. 1949.

7. Pendergrass, E. P.: Cited by Golden, R.: *Op. cit.*, ref. 5, p. 2.

8. Chamberlin, G. W.: Roentgen anatomy of small intestine. J. Am. M. A. 113:1537-1541, Oct. 21, 1939.

9. Shanks, S. C.: Cited by Bockus, H. L.: *Op. cit.*, ref. 2.

10. Brown, S.: Chronic nonspecific regional enteritis. Am. J. Roentgenol. 54:487-495, Nov. 1945.

11. Crohn, B. B., Ginzburg, L., and Oppenheimer, G. D.: Regional ileitis; a pathologic and clinical entity. J. Am. M. A. 99:1323-1328, Oct. 15, 1932.

12. Kirklin, B. R.: Discussion (p. 496-497) on Chronic nonspecific regional enteritis. *Op. cit.*, ref. 10.

13. Kantor, J. L.: Cited by Bockus, H. L.: *Op. cit.*, ref. 2.

14. Hock, C. W., *et al.*: Radiation injuries of intestines. Am. J. Med. 4:511-524, April 1948.

15. Fradkin, W. Z.: Diagnosis and treatment of diarrheal diseases. Grune & Stratton, New York, 1947, p. 214.

16. Thaysen, T. E. H.: Cited by Golden, R.: *Op. cit.*, ref. 4.

17. Preuss, J.: Etiology and pathogenesis of sprue. Am. Pract. 3:400-406, March 1949.

18. Greenfield, H.: Early roentgen diagnosis of jejunal lymphosarcoma; report of a case. Am. J. Roentgenol. 36:674-677, Nov. 1936.

19. Mackie, T. T., and Pound, R. E.: Changes in gastro-intestinal tract in deficiency states, with special reference to small intestine: roentgenologic and clinical study of 40 cases. J. Am. M. A. 104:613-618, Feb. 23, 1935.

20. Feldman, M.: Clinical roentgenology of the digestive tract. Ed. 2. Williams & Wilkins Co., Baltimore, 1945, p. 353.

CANCER SERVICES AND FACILITIES

A new report on the Nation's cancer services and facilities was recently made available for the country as a whole and for each State and territory. The report, which was prepared by the Public Health Service's National Cancer Institute, is intended to serve as a source book to persons engaged in cancer activities. Local groups will find the report useful in evaluating existing cancer facilities and services against existing needs.

In addition to the national summary, the report contains an analysis of each State's cancer legislation, statistics on cancer deaths, number of physicians and registered hospitals, amount of funds available for the official State cancer program, names and locations of cancer clinics and cancer detection centers. Presented for the first time is information on such items as the availability of cytology test services, follow-up services for cancer patients, home nursing services, and home medical care services rendered by hospitals.

While in general the cancer patient obtains his medical and nursing services from the same sources as do other types of patients, the report shows that the United States has many specialized cancer services and facilities. Thirty-eight States and territories have some type of cancer register now in operation or in process of organization. In all States except Nevada there are one or more facilities at which the cytology test for cancer may be obtained. In about three-fourths of the States some follow-up services for cancer patients are provided by public health nurses employed by State, county, or city health departments. The visiting nurse association is the chief agency from which cancer patients may secure part-time nursing service in the home.

To meet the growing challenge of cancer many States have passed legislation providing for the establishment of some State-supported service or facility for cancer patients. Most of these are limited to the medically indigent, but in a few States such services as cytology test examinations or tumor tissue examinations are available to all persons regardless of ability to pay. Nineteen States, Ala., Ark., Fla., Ga., Ky., Mass., Miss., Mo., N.H., N.Y., N.C., Okla., R.I., S.C., Tenn., Texas, Utah, Va., and Puerto Rico provide complete diagnostic and treatment services to the medically indigent cancer patient. Four of these States, Massachusetts, Missouri, New York, and Texas have State-supported cancer hospitals.

THE JOURNAL OF THE
AMERICAN OSTEOPATHIC ASSOCIATION

Published monthly by the American Osteopathic Association

Publication Office, 100 S. Kenilworth Ave., Oak Park, Ill.
Editorial Office, 212 E. Ohio St., Chicago 11, Ill.
Address all communications to the Chicago Office

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Subscription . . . . . Ten dollars a year in advance

Vol. 50 July, 1951 No. 11

AVE!

For the ninth time in 50 years a new name appears at the masthead of this JOURNAL, that of the eighth osteopathic physician as its editor. He is deeply conscious, as he assumes the chair, that the creative work of those who have preceded him makes it possible for him to hope for accomplishments unforeseen by them, save as they dreamed dreams and saw visions. From within the mists of the half century other figures emerge who become a cloud of witnesses, not for static and outmoded thinking, but for freedom of the inquiring and creative mind, ever to pursue the truth.

From those of the living whose judgment and confidence have placed him in this position, the editor craves indulgence, not alone for the errors that flow from human fallibility, but from those that spring up unwittingly where a rich and full experience has yet to be achieved. What he may accomplish will depend upon the strength with which his arms are upheld.

Expressions of friendship and confidence have come from many diverse sources and over a wide geographical area; they have been both personal and professional, and they encircle the years. Associates in Cleveland and Ohio have made this transition from local responsibilities to those of a national level a matter of high moment in this individual's life. No living being can be judged worthy of such high appraisal until the concluding bar of his symphony becomes music, the final revising stroke of his brush grows into color and light, or the final "30" marks the failing pen; he is unworthy until fateful error itself dies with him. But no man can escape being lifted up in spirit by such acclaim.

Before a new regime begins, the osteopathic profession would pay tribute to a loyalty greater than professional loyalty. Katherine Becker, self-effacing in the perfection of her art and skill, as the acting editor of THE JOURNAL OF THE AMERICAN OSTEOPATHIC ASSOCIATION for the past 3 years, has rendered a service far beyond the line of duty; it should be termed distinguished service. According to a technical nomenclature, she will remain as the assistant editor. In reality, she is the associate.

The JOURNAL is not a manufactured item; it is a creation of hand and heart and mind. For it one bespeaks your pride in its achievements and your belief in its ideals. Be critical, but constructively critical; be patient, it is a product of human effort; but love it and read it. Whether you will it or not, it is the voice of osteopathy.

RAYMOND P. KEESECKER, D.O.

MIRACLE DRUGS OR PRESSURE DRUGS

The osteopathic physician finds himself today in a dangerous spot, when he becomes the purveyor of drugs for which there is no indication. That he shares this guilt with physicians of the old school of practice does not absolve him from the blame of meddlesome, useless, and often dangerous medication. The very nature of his philosophy of medicine renders his guilt greater, his excuses less valid.

The doctor finds himself the victim of a set of circumstances which had their origin in the once widely heralded sulfa drugs. These chemical formulas were to have been the answer to the problem of disease, these drugs the factors in the equation whose "x" was the healing process. Too often the patient became not the victor over his disease, but the victim of the drug that was to have cured him.

Indiscriminate use of the sulfonamides is greatly curtailed, but in their wake the antibiotics are riding high. The production of penicillin has reached astronomical heights, as measured in units. Reports of the United States Department of Commerce indicate that from 1943 through 1949 the increase was in terms of billions of units per year. Figures for streptomycin show a similar phenomenal rise; doubtless this will be repeated in aureomycin, together with such biologicals as ACTH and cortisone. These increases cannot be based on scientific usage; the known indications are not that great.

Pressure for the indiscriminate and unnecessary employment of the "miracle drugs" is exerted by the public upon the doctor. This has grown out of the sensational manner in which certain sections of the press have subverted legitimate scientific research and discovery by overly enthusiastic reporting. At times this is carried to the point that melodrama is made out of the problems of health and disease. This results in a misinformed public and the tendency of patients to exert pressure upon physicians to use certain drugs unwisely and against their better judgment. Economic pressure becomes an added factor as the physician realizes that if he fails to accede to the demands of anxious and ill-advised patients, some nearby and less scrupulous doctor may do so. Laymen, however, are becoming conscious of this situation and are annoyed by the widespread use of nonspecific and expensive medication. Careless drugging is beginning to backfire.

Criticism of the press for the way in which new remedies or procedures are reported, and of the public for their demands for the new, should be tempered by doubt. The sources of such information are for the most part guarded within a sector of American medicine that affects to speak for the entire field and because of its power and influence it virtually does so. Occurrences suggest that this responsibility is not always exercised with the wisdom and judiciousness that they who assume such control owe to the public.

Furthermore, irresponsibility of certain sectors of the press by misleading medical reporting or victimization of the public by pseudoscientific advertisement, of which the antihistamines are the most flagrant example, must not becloud the trustworthy medical reporting that is done by responsible magazines and newspapers. The scientific reporting that is carried in the editorial section of the Sunday *New York Times* is noteworthy in this respect, and illustrates the sense of responsibility shown by men who are members of the National Association of Science Writers. A concerted effort should be planned by organizations of a welfare and public interest nature to force into line numerous segments of the press and certain magazines of mass circulation, as well as the radio.

The osteopathic physician should play a role in the education of his community through his local contacts with public health matters and by his direct relation to patients. The principles of his school of medicine commit him to take the lead in practicing discriminating therapeutics. Treatment based on an exhibition of nonspecific chemotherapy and shotgun antibiotics and biologicals is exactly as unscientific as the polypharmacy of the family doctor of two generations ago, and it is capable of much more harm. The osteopathic physician who is guilty of this type of care brings disrepute upon medicine and violates every tenet of his school. The basic question has never been whether to give a drug or administer a "treatment." It is whether the particular therapeutic agent employed is consistent with fundamental osteopathic principles. Fortunately, we have become largely emancipated from pressure manipulation. We must not permit ourselves to become guilty of pressure drugging.

DEDICATION OF THE KIRKSVILLE OSTEOPATHIC HOSPITAL

Osteopathic history was made at the Kirksville College of Osteopathy and Surgery on June 7 and 8 when the million-dollar building which houses a general hospital and a rural clinic as one unit was dedicated. The actual events were dramatic in their interest and they will be reported in THE FORUM. The occasion itself was of much larger significance than a dedication and commencement, noteworthy as such happenings may well be. It was the culmination of an undertaking greater than any one college or any one school of medicine.

Representative members of the osteopathic profession were in attendance and were participants. Dr. Floyd F. Peckham, President-Elect and chairman of the Bureau of Hospitals of the American Osteopathic Association, Dr. H. Dale Pearson, Immediate Past President, and Dr. R. McFarlane Tilley, chairman of the Bureau of Professional Education and Colleges, were speakers. Dr. R. C. McCaughan, Executive Secretary, was an honored guest. The commencement address was given by Dr. Robert J. McCracken, pastor of the nationally known Riverside Church of New York City. These men came to celebrate the fulfillment of a plan begun in 1949 when the United States Public Health Service, the Division of Health and Hygiene of the State of Missouri, the Kirksville College, and the osteopathic profession set out to make possible an institution which would provide a hospital and a rural clinic for an area unable to provide such facilities for itself. The result became preventive medicine in its finest sense, justifying state and national leadership, reflecting credit upon the planning of the osteopathic school of medicine.

Decades ago there was a day when a very small and obscure college was chartered and dedicated to the purpose of "improving the present system of medicine and surgery." Since those early days the growth and development of the osteopathic profession has not been unbroken. Tides come in the lives of men and institutions and they ebb and flow, even as the waters of the earth itself. But the days of June 7 and June 8 marked a time of high tide in osteopathic history. The newly dedicated building stands revealed as more than a modern structure of steel and brick and mortar costing more than a million dollars. Within its walls are not only the supporting structures of two old buildings whose well-laid bricks and firm mortar give strength to the new, but the integrated building, a thing of new usefulness and beauty, becomes a symbol of the continuity of the human spirit, immortal in its service to a new day and generation. The founders built for a day greater than they dreamed.

COMING OF AGE

No better evidence can be presented that the osteopathic profession has come into maturity than is indicated by the three sizable gifts which have recently been contributed to the funds within the American Osteopathic Association and announced by the Treasurer of the Association, Miss Rose Mary Moser.

The New England Osteopathic Association has had a full organizational history and its role in the professional growth of osteopathy has been an important one. Its officers and membership came to recognize, however, that its purpose could be best served now through local organizations and that its original function had been fulfilled. In disbanding it found itself with $1,383.92 in the treasury and all of its bills paid. A check to that amount has been turned over to the Building Fund of the American Osteopathic Association. The regional interests of this Association will live in the strengthened state societies while its larger goals will be perpetuated in the A. T. Still Memorial Building.

The Auxiliary to the American Osteopathic Association has made a gift of $1,114.00 earmarked for

research in colleges, for the Research Fund itself, and for the Student Loan Fund. This is an amount in addition to the $1,946.47 which had been presented during the 1950-1951 fiscal year. The Ohio Division of the Osteopathic Women's National Association has contributed the very generous sum of $8,544.48 to the Student Loan Fund, rendering very material help to that splendid purpose.

These gifts, together with very many others that have been made in recent years and are being made daily, constitute the best possible proof that the osteopathic profession is not only a vital and living thing, but that professionally we are coming into the long view on a national level. Such evidence gives further proof that here is a group whose thinking and planning reaches beyond the individual, beyond regional groups, until it involves that degree of institutionalization which is the first requisite for organizational permanency within a society. The osteopathic profession is coming of age.

SPECIAL ARTICLE

Rehabilitation of Disabled Feet Through Modern Shoe Therapy

WILLIAM A. ROSSI
Boston

Remarkable results are being achieved through the revolutionary technics in shoe therapy developed by the National Shoe Foundation for Disabled Feet, Inc., a nonprofit organization established in 1947. The Foundation, with its extensive facilities and scientific apparatus for this highly specialized work, is devoted to the making of special shoes for persons who cannot be properly fitted to ordinary commercial footwear. It is estimated that there are about 1,000,000 persons in the United States whose feet have been disabled or deformed by disease or accident. Also, there are probably another 500,000 who suffer from serious foot ailments or whose feet are extraordinarily large or small or are otherwise difficult to fit with mass produced shoes.

It is estimated that the accuracy of fit of shoes constructed for disabled feet by a custom bootmaker averages about 25 to 30 per cent. The Foundation claims a 99.9 per cent accuracy of fit. This perfection is achieved by careful, almost foolproof, measurement made with specially designed machinery and equipment. In most instances a doctor's prescription or recommendation must accompany each patient desiring a fitting. During its 4-year existence the Foundation has worked closely with orthopedic surgeons, allopathic and osteopathic physicians, and other medical groups. Only casts of feet, lasts, innermolds, and patterns are made by the Foundation's laboratory. The shoes are made under the supervision of the Foundation by selected shoe manufacturers having experience in producing single pair shoes for cripples.

When a patient arrives at the Foundation laboratory in Boston (or in one of the branch offices), his foot is examined and a case history taken. Next an impression is taken of the foot. (The position in which the foot is to be maintained in relation to the ground should be indicated in the doctor's prescription.) The impression is made by placing the foot in a pan of tiny ball bearings about the size of birdshot. When full body weight is applied, the foot makes a solid impression in the ball bearings much as it would in wet sand. A switch is then thrown and the ball bearings are held stationary by an electromagnet, making a perfect impression of the entire sole of the foot (Fig. 1). All the contours of this sole surface will later be translated into the last and shoe interior to provide a stance and gait as near normal as is possible through shoe therapy.

After checking the impression for conformance to the physician's prescription, a technician places a

Fig. 1. The foot placed in the pan of tiny ball bearings on the electromagnetic cast-making machine. When a switch is thrown, the ball bearings suddenly "freeze"—leaving the perfect imprint of the bottom surface of the foot. Fig. 2. A metal encasement surrounds the foot as plaster is poured into this housing to obtain a cast of the upper portion of the foot.

Fig. 1

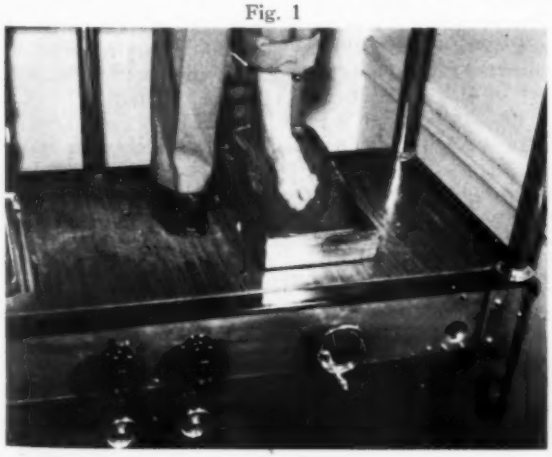

Fig. 2

Fig. 3

Fig. 4

Fig. 3. Here the plastic last is being fitted to the cork innermold. Exact measurements are taken with special instruments to check on weight bearing, balance, and gait factors of the last and innermold. Fig. 4. Here are the finished shoes. While the right foot is normal, there is severe structural deformity of the left. It is difficult on casual inspection to discern this fact from the appearance of the shoes.

metal fence around the foot. Sufficient plaster of paris is poured inside the enclosure to cover the entire foot (Fig. 2). After a few minutes' drying time the mold is removed in two sections. The inside of this negative is coated with separating film, reassembled, and filled with plaster. The resulting plaster cast is an exact duplicate of the foot in every detail. To insure a perfect fit when the shoe is finished, a wedge is removed from the middle of the positive cast thus reducing the girth of the cast to the exact measurement of the foot taken with the patient in sitting position. The permanent last is made from this case out of long-life plastic. This procedure involves a special process developed by the laboratory. The plastic last is then baked in an electric oven for proper hardening and shrinkage.

Designing and fitting the plastic cork innermold is the most intricate and important step in the process (Fig. 3). The innermold is intended to make up the difference between the bottom of the patient's foot and the normal shoe insole contour and to hold the foot in the position prescribed by the physician. The innermold is also useful for compensating limb shortages, filling areas left absent by amputated portions, establishing proper foot balance, correcting gait deficiencies, and relieving sore spots on the tread surface of the foot. After the innermold has been prepared, it is attached to the last and the assembled unit is again checked for conformance to prescription. The Foundation's patternmaker then designs the pattern for the uppers to fit the combined last and innermold. For psychologic reasons the shoe uppers are designed to look as stylish as is feasible with the type of deformity (Fig. 4).

As stated earlier, the shoes are not made at the laboratory but are farmed out to reputable and experienced shoe manufacturers who make the shoe over the assembly (last and innermold). The innermold becomes an integral part of the shoe. When the shoes are finished they are returned to the laboratory or branch. The patient again visits the laboratory and the shoes are carefully fitted and the innermold covered. All lasts and pertinent information are kept on file by the Foundation thus making it unnecessary for the patient to make a personal visit to the laboratory when reordering a pair of specially built shoes.

Approximately 10 weeks are required to finish the shoes after the cast has been made. Average initial cost of a pair of shoes is $75. This amount includes $40 for the cast, last, innermold, et cetera, and $35 for the shoes. The Foundation makes no profit from these sales. In fact, at the present time it is operating at a deficit. The shoe manufacturer also provides leather and workmanship at cost. At present, these specially built shoes can be obtained only through the Foundation's research laboratory in Boston and the branch office in New York. Branch establishments make the original casts which are sent to the central laboratory in Boston for processing. The finished shoes are then shipped back to the branch for fitting.

Other services furnished by the Foundation include the design and preparation of innermolds and fillermolds for commercial shoes. These innermolds are especially helpful in relieving foot strain, fallen arches, calluses, heel spurs, and other foot ailments. The fillermold is similar to the innermold in composition and its purpose is to take up the space left in shoes by surgical removal of a portion of the foot. If the foot is otherwise normal, fillermolds can be used satisfactorily in ordinary commercial shoes. Personal fitting is necessary for both of these products, however. The Foundation also maintains a repair service and facilities for making made-to-order rubbers and galoshes individually designed to fit special shoes.

The National Shoe Foundation for Disabled Feet, Inc., was incorporated in 1947. The original laboratory was established about 20 years ago by the United Shoe Machinery Corporation of Boston. All the special technics, instruments, and equipment were gradually developed and perfected over this period. The electromagnetically controlled impression-taking machine is a product of the United Shoe Machinery Corporation. In 1947 the National Shoe Manufacturing Association requested permission to take over the sponsorship and cost of this laboratory. This was granted. The aim of the Association was to expand the Foundation's services so that anyone needing special footwear could be efficiently and comfortably shod. Various leaders in the shoe manufacturing industry make up the Board of Directors of the Foundation. The organization also maintains a medical advisory committee and a technical committee. Mr. Charles Kilham, who is responsible for many of the technics developed by the laboratory, is the director of the Foundation.

Additional information concerning the work and facilities of the Foundation can be obtained by writing to the Foundation's headquarters, 940 Chrysler Building, New York 17; or the central laboratory, 92 Brookline Ave., Boston 15.

Department of Professional Affairs

ALLAN A. EGGLESTON, D.O.
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Montreal, Canada

COMMITTEE ON SPECIAL MEMBERSHIP EFFORT

STEPHEN B. GIBBS, D.O.
Chairman
Coral Gables, Florida

PUBLIC HEALTH EDUCATION AND MEMBERSHIP

Good laws that make it possible for osteopathic physicians to practice as members of an honored profession come only by hours—even years—of patient, purposeful, tactful education of the public. And wherever good laws are found protecting osteopathic practice rights, there also are found osteopathic physicians who have given largely of their time and effort in bringing about that education.

Why do they do it? Why does anyone take on the strenuous job of organizational work in the American Osteopathic Association? They do it because they have caught a bit of the idea, the inspiration that led Dr. Still and others like him to devote a lifetime to the service of humanity; because it is a very rich and satisfying experience to have a part in developing a great ideal.

And why are they able to do what they do? They are able because they have back of them the resources and services of the Association; because they are able to get complete and dependable information at the time when it is needed.

Such service doesn't just happen. Such help could not be secured from outside sources for many times the amount any individual pays in annual dues.

Let's make it easier for our Association in its various departments to give us even wider service. How?

1. By paying dues promptly and thus saving office time and postage

2. By taking a little of our own time to convince nonmembers that success in practice depends upon organization.

Membership doesn't cost—it *pays!*

Aloha,

ISABELLE MORELOCK, D.O.
Third Vice President

MEMBERSHIP REPORT AS OF JUNE 1, 1951

Membership Count, May 1, 1951		7,964
Applications received in May, 1951	29	
Graduates licensed in May, 1951	13	
Restored to roll, May, 1951	2	44
Deaths in May, 1951	6	
Gain in May, 1951		38
Membership Count, June 1, 1951		8,002

HONOR ROLL

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PREPROFESSIONAL EDUCATION

The section of the California law establishing preprofessional educational requirements for applicants seeking a physician's and surgeon's certificate, issued by either the Board of Osteopathic Examiners or the Board of Medical Examiners of the state of California, was amended at the 1951 session of the legislature. Prior to this amendment, California had been one of the few states which by statutory law required only 1 year's preprofessional study of college grade of applicants for a physician's and surgeon's certificate before they commenced their professional education. By the passage of Assembly Bill No. 2675 (ch. 318, Laws 1951), section 2191 of the Business and Professions Code was amended to read as follows:

2191. Each applicant shall present evidence satisfactory to the board that he has completed a two-year resident course of college grade, including the subjects of physics, chemistry, and biology, before commencing the study of medicine. An applicant graduating after January 1, 1955, shall present evidence satisfactory to the board of having completed a three-year resident course of college grade, including the subjects of physics, chemistry, and biology, before commencing the study of medicine.

The requirement of 2 years' resident course of college grade before commencing the study of medicine is a usual provision in the statutes of most states. The additional requirement, however, that "an applicant graduating after January 1, 1955" shall present evidence satisfactory to the board of having completed a 3-year resident course of college grade before commencing the study of medicine is the first instance of a state establishing by law a compulsory 3-year preprofessional educational requirement. While the date for this requirement being placed into effect appears to be January 1, 1955, it should be recognized that students matriculating in an osteopathic college in September, 1951, will graduate in June, 1955, and thus if they desire to be eligible to apply for a license to practice as a physician and surgeon in the state of California, they must have completed a 3-year course of college grade before commencing the study of osteopathy. The requirement of this law that such preprofessional study include the subjects of physics, chemistry, and biology was a part of the law prior to amendment.

The educational standards for osteopathic colleges issued by the Bureau of Professional Education and Colleges of the American Osteopathic Association require that an approved osteopathic college establish the following preprofessional educational standards for applicants seeking matriculation:

2. An official transcript of credit for two years totaling not less than sixty semester hours or its equivalent in quarter hours, acquired in a college or university accredited by a regional educational association or a national educational association, and which is acceptable by such college as one-half the required credit toward a baccalaureate degree (3 or 4 years in such colleges is recommended). Included in these requirements are minimum credits in basic subjects which must be completed by every applicant before admission:

English	6 semester hours
Physics	*6 to 8 semester hours
Biology	*6 to 8 semester hours
Chemistry	
Organic	4 semester hours
Inorganic	8 semester hours

*Whichever is a complete year's course in the college involved.

The official requirement of the Bureau of Professional Education and Colleges is that matriculants thus have at least

2 years' preprofessional educational requirements and that 3 or 4 years' preprofessional education is recommended. The application of these educational standards by the individual osteopathic colleges is indicated by the fact that one osteopathic college requires in its catalogue 3 years' preprofessional education of all applicants seeking matriculation and three other of the osteopathic colleges recommend 3 years' preprofessional study but do not require such preprofessional study as an official standard in their catalogue. In actual practice, these three schools have only accepted students presenting evidence of 3 years' preprofessional education in making up the freshman classes of these three osteopathic colleges in recent years. The other two osteopathic colleges accept students with 2 years' preprofessional study, but such students are in the minority. The January 1, 1951, Educational Supplement to THE JOURNAL OF THE AMERICAN OSTEOPATHIC ASSOCIATION indicates that the matriculants into osteopathic colleges in the fall of 1950 possessed preprofessional education far in excess of the minimum requirements. Sixty-four per cent of this entering class had received their baccalaureate degree. Ninety-one per cent of the matriculants had completed 3 or more years of preprofessional education.

The September 9, 1950, Educational Number of *The Journal of the American Medical Association* reveals that the Council on Medical Education and Hospitals of the American Medical Association requires only 2 years' preprofessional education as the minimum which an approved medical college must demand of all matriculants. The Council recommends, however, that at least 3 years of college work be required of all candidates for admission. The approved schools require at least 3 years' preprofessional education with the exception of Howard University College of Medicine, Washington, D.C., University of Tennessee College of Medicine, Memphis, Tennessee, and the Meharry Medical College, Nashville, Tennessee, which require only 2 years' preprofessional study. Thus, sixty-nine of the seventy-two medical schools approved by the Council on Medical Education and Hospitals of the American Medical Association require 3 years' preprofessional study. The Education Number further reveals that 63 per cent of the class matriculating in the fall of 1950 possessed baccalaureate degrees.

A review of the legal requirements established by statute in the various states relating to preprofessional education indicates that the legislatures have believed it desirable and beneficial to permit the official national accrediting agencies of complete schools of medicine to establish the educational standards for the training of physicians and surgeons and that the actual legislative enactments should not interfere with or impose new burdens upon professional education. The legislatures of the various states, it thus appears, have adopted the educational standards established by the national accrediting agencies only after experience has indicated their validity. In no field of law has the legislature relied more heavily upon the integrity and merit of the policies established by educators than in the healing art field. The high standards now required by all approved colleges training physicians and surgeons and the excellence of the skill and knowledge possessed by these physicians and surgeons indicate that this reliance by the legislatures upon the normal development of professional education has been justified.

The establishment, therefore, by the legislature of California of a preprofessional educational requirement in excess of that established as the minimum educational standard by either the Bureau of Professional Education and Colleges of the American Osteopathic Association or the Council on Medical Education and Hospitals of the American Medical Association is of interest to physicians and surgeons concerned with the education of general practitioners. Most legislatures have been reluctant to impose new requirements upon colleges training physicians and surgeons in this present period of national emergency when emphasis has been placed upon the training and education of more physicians and surgeons in order to meet the nation's health needs and when the possibility of accelerated courses in the training of physicians and surgeons and the compressing of preprofessional study into a briefer period may result from the military and civilian need for more physicians.

Department of Public Relations

CHESTER D. SWOPE, D.O.
Chairman
Washington, D. C.

BILLS IN CONGRESS

HR. 4094—Mr. Elliott of Alabama. To provide for research in child life, involving coordinated efforts of research workers representing biologicals, medical, psychological, physical, social, and other scientific disciplines.

HR. 4136—Mr. Kelley of Pennsylvania. For grants-in-aid to the States for special services for education of physically handicapped children of school age, under State plans approved by the Commissioner of Education.

HR. 4176—Mr. Mitchell of Washington. To re-establish the Emergency Maternity and Infant Care program, to be applicable for maternity and infant care for the wives and infants of enlisted members of the Armed Forces during the present emergency.

HR. 4235—Mr. Machrowicz of Michigan. To amend the Federal Employees Compensation Act to extend coverage to persons engaged in civil defense.

HR. 4322—Mr. Mitchell of Washington. For grants-in-aid to the States for school health services for prevention, diagnosis, and treatment of physical and mental defects and conditions.

HR. 4405—Mr. Clemente of New York. Relating to medical and dental expenses as deductions from gross income for income tax purposes.

S. 1—Mr. Russell of Georgia and others. 1951 Amendments to the Universal Military Training and Service Act. Extends Selective Service Act to July 1, 1955. Period of service for persons inducted will be 24 months, an increase of 3 months over the prior period. Requires registration of all male citizens between 18 and 26. Draft age is reduced from 19 years to 18 years and 6 months, but no person below 19 may be inducted by any local board so long as there are available within that local board eligible males between the ages of 19 through 25. Reduces physical and mental standards to those prevailing in January of 1945. All persons entering the Armed Forces or the National Security Training Corps will be required to serve a total obligated period of service of 8 years. Period of active duty for reservists raised from current 21 months to 24 months. Reservists who served 12 months or more during World War II will upon application be released to inactive duty after completing 17 months of active duty including the time spent on active duty since June 25, 1950. Authority to call up reservists is extended to July 1, 1953.

High school students will be deferred until they graduate from high school or attain the age of 20. College students will be deferred to complete their academic year, but if they are so deferred they may not thereafter be deferred by statute to complete an academic year. Local boards are not required to defer college students on basis of educational test scores or class standing. The President is authorized under such regulations as he may prescribe to provide for deferment from training and service or from training in the National Security Training Corps of any or all categories of persons whose activity in study, research, or medical, dental, veterinary,

(Continued on page 602)